

12 metallic complexes, positive optical photoresist, negative optical photoresist, electron-beam
13 photoresists, X-ray photoresists, ion-beam photoresists, ion-implanted photoresists, and other
14 hardened photoresists and wherein said substrate consists of at least one portion of a device
15 selected from the group consisting of semiconductor devices and wafers, ceramic devices,
16 liquid crystal display devices, flat-panel displays, printed circuit boards, magnetic read/write
17 heads, thin-film read/write heads;

18 (b) subjecting said organic coatings, films, layers, or residues of step (a) to a
19 precursor chemical or physical treatment prior to step (1) so as to prepare said organic coat-
20 ings, films, layers, or residues for exposure to gaseous sulfur trioxide for facilitating the reac-
21 tion of said sulfur trioxide with the organic coatings, films, layers or residues to be removed;

22 (c) carrying out said step (1) so that said water-free, gaseous sulfur trioxide re-
23 acts with said organic coatings, films, layers, and residues to form physically or chemically
24 altered organic material;

25 (d) carrying out said step (2) to remove said altered organic material from said
26 substrates; and

27 (e) subjecting said organic coatings, films, layers, or residues to a chemical or
28 physical post-rinse treatment subsequent to step (2) to remove any residual organic material.
29 from said substrates remaining after said solvent rinse.

Please amend Claims 3, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 23, 25, 27,
and 29 as follows:

Claims 3, 8, 12, 13, 15, 19, 23, and 25, line 1 each, delete "1" and insert in place
thereof --31--.

6. (Twice Amended) The method of Claim [1] 31 further including:

in step (a) subjecting said organic coatings, films, layers, or residues to said
precursor chemical or precursor physical treatment, including, prior to said subjecting[:]

(a1) placing said substrate in a chamber;

(a2) purging said chamber with a dry inert gas;

in step (1) [b] introducing said vapor consisting essentially of water-free gaseous sulfur trioxide into said chamber or in a separate chamber to react with said coating, film, layer, or residue, including[;] [b1] allowing said period of time to pass to permit reaction between said sulfur trioxide and said coating; and

in step (c) [d] ending said reaction between said sulfur trioxide and said coating by subjecting said substrate or device to an end-point chemical or end-point physical treatment.

Claim 7, line 2, after "nitrogen" insert --or argon--.

9. (Twice Amended) The method of Claim 8 wherein said chemically active process gases are selected from the group consisting of oxygen, nitrous oxide, steam, and vapor phase hydrogen peroxide and wherein said chemically inert process gases are selected from the group consisting of [oxygen, nitrous oxide, steam, vapor phase hydrogen peroxide,] nitrogen[,] and argon.

11. (Once Amended) The method of Claim [1] 31 wherein said precursor physical treatment is selected from the group consisting of exposure to heat, electromagnetic radiation [of suitable wavelength including ultra-violet light radiation (UV)], laser energy, ultrasonic and megasonic sound energy.

day light.

14. (Twice Amended) The method of Claim [1] 31 wherein said solvent rinse is simultaneously carried out in the presence of megasonic or ultrasonic energy, heat, electromagnetic radiation, [ultra-violet light radiation (UV),] or laser energy.

16. (Twice Amended) The method of Claim 15 wherein said chemically active process gases are selected from the group consisting of oxygen, nitrous oxide, steam, and vapor phase hydrogen peroxide and wherein said chemically inert process gases are selected from the group consisting of [oxygen, nitrous oxide, steam, vapor phase hydrogen peroxide,] nitrogen[,] and argon.

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18. (Twice Amended) The method of Claim [1] 31 wherein said post-rinse physical treatment is selected from the group consisting of further exposure to heat, electromagnetic radiation, [ultra-violet light radiation (UV),] laser energy, kinetic energy, high-pressure deionized water sprays, physical scrubbing, CO₂ snow processing, ultrasonic and megasonic sound energy.

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20. (Twice Amended) The method of Claim [1] 31 wherein step (b) further comprises subjecting said organic coatings, films, layers, or residues to simultaneous exposure to a component selected from the group consisting of other chemically active process gases and vapors, chemically inert process gases, vaporized solvents, heat, electromagnetic radiation, [ultra-violet light radiation (UV),] and laser energy.

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21. (Twice Amended) The method of Claim 20 wherein said chemically active process gases are selected from the group consisting of oxygen, nitrous oxide, steam, and vapor phase hydrogen peroxide and wherein said chemically inert process gases are selected from the group consisting of [oxygen, nitrous oxide, steam, vapor phase hydrogen peroxide,] nitrogen[,] and argon.

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27. (Once Amended) The method of Claim 26 wherein said chemically active process gases are selected from the group consisting of oxygen, nitrous oxide, steam, and vapor phase hydrogen peroxide[,] and wherein said chemically inert process gases are selected from the group consisting of nitrogen[,] and argon.

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29. (Twice Amended) The method of Claim 25 wherein said pre-rinse physical treatment consists of further exposure to a component selected from the group consisting of heat, electromagnetic radiation, [ultra-violet light radiation (UV),] laser energy, kinetic energy, high-pressure deionized water sprays, physical scrubbing, CO₂ snow processing, ultrasonic and megasonic sound energy.